

# RJK5036DP3-A0

500V - 2.4A - MOS FET  
High Speed Power Switching

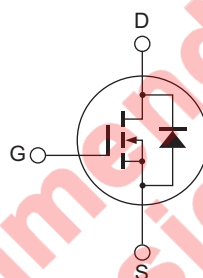
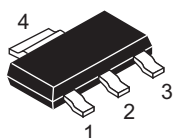
R07DS0840EJ0100  
Rev.1.00  
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## Features

- Low on-resistance  
 $R_{DS(on)} = 3.83 \Omega$  typ. (at  $I_D = 1.2 A$ ,  $V_{GS} = 10 V$ ,  $T_a = 25^\circ C$ )
- Low drive current
- High density mounting

## Outline

RENESAS Package code: PRSP0004ZB-A  
Package name: SOT-223



1. Gate
2. Drain
3. Source
4. Drain

## Absolute Maximum Ratings

( $T_a = 25^\circ C$ )

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	500	V
Gate to source voltage	$V_{GSS}$	$\pm 30$	V
Drain current	$I_D$ <sup>Note1</sup>	2.4	A
Drain peak current	$I_{D(pulse)}$ <sup>Note2</sup>	4.8	A
Body-drain diode reverse drain current	$I_{DR}$ <sup>Note1</sup>	2.4	A
Body-drain diode reverse drain peak current	$I_{DR(pulse)}$ <sup>Note2</sup>	4.8	A
Channel temperature	$T_{ch}$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

Notes: 1. Limited  $T_{ch}$  max.. Value at  $T_c = 25^\circ C$   
2. Pulse width limited by safe operating area.

## Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	500	—	—	V	$I_D = 10 \text{ mA}$ , $V_{GS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	1	$\mu\text{A}$	$V_{DS} = 500 \text{ V}$ , $V_{GS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 0.1$	$\mu\text{A}$	$V_{GS} = \pm 30 \text{ V}$ , $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	3.0	—	4.5	V	$V_{DS} = 10 \text{ V}$ , $I_D = 1 \text{ mA}$
Static drain to source on state resistance	$R_{DS(on)}$	—	3.83	5.00	$\Omega$	$I_D = 1.2 \text{ A}$ , $V_{GS} = 10 \text{ V}$ <sup>Note3</sup>
Input capacitance	$C_{iss}$	—	165	—	pF	$V_{DS} = 25 \text{ V}$
Output capacitance	$C_{oss}$	—	21	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	$C_{rss}$	—	2.6	—	pF	$f = 1 \text{ MHz}$
Turn-on delay time	$t_{d(on)}$	—	11	—	ns	$I_D = 1.2 \text{ A}$
Rise time	$t_r$	—	12.5	—	ns	$V_{GS} = 10 \text{ V}$
Turn-off delay time	$t_{d(off)}$	—	22	—	ns	$R_L = 208 \Omega$
Fall time	$t_f$	—	22	—	ns	$R_g = 10 \Omega$
Body-drain diode forward voltage	$V_{DF}$	—	0.9	1.5	V	$I_F = 2.4 \text{ A}$ , $V_{GS} = 0$ <sup>Note3</sup>

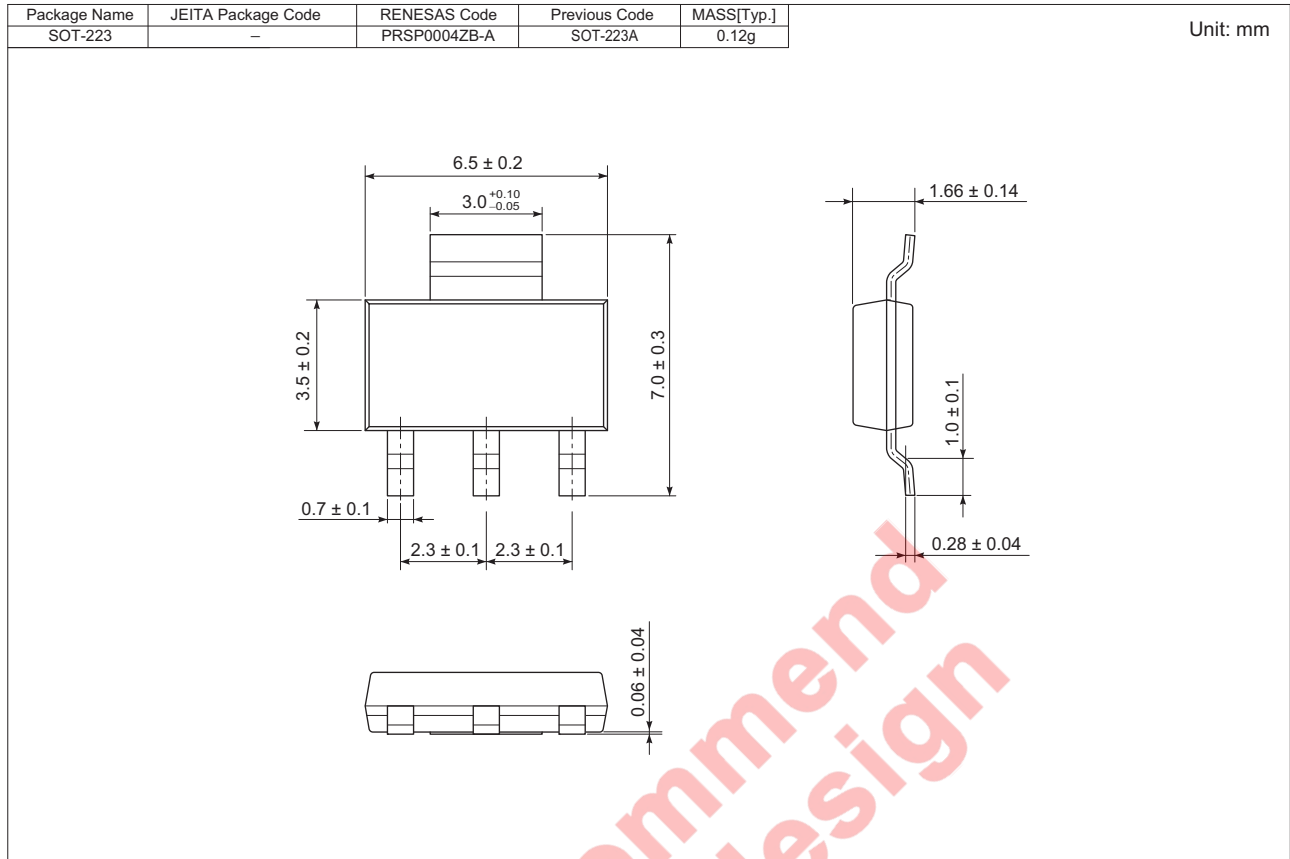
Notes: 3. Pulse test

4. This device is sensitive to electrostatic discharge.

It is recommended to adopt appropriate cautions when handling this product.

Not recommended  
for new design

Package Dimension



Ordering Information

Orderable Part Number	Quantity	Shipping Container
RJK5036DP3-A0#J2	3000 pcs	Taping

Not recommended for new design

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